



11-21-06

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

This is in response to the office action dated 9/18/2006. Applicant is requesting an extension of time. Applicant attorney went on medical leave on September 22, 2006. I am providing the proof and the extension fee.

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10

I hereby certify that, on the date shown below, this correspondence is being: Deposited with the United States Postal Service in an envelop addressed to Mail Stop Appeal Brief, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 as express Mail Post Office to Addressee Mailing Label NO. EG 85806685545

Date: 11/20/06



Signature

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J. M. Stone, M. D.
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(713) 524-8531

November 2, 2006

To whom it concerns:

Atty. Delphine Janee was hospitalized on September 22, 2006 and underwent emergency surgery. I have followed her closely post op and her recovery is progressing well. I am releasing her to return to work without restrictions November 3, 2006.

Sincerely,
Dr. J. Stone
713 524 8531

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

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APPELLANT'S BRIEF

This brief is in furtherance of the Notice of Appeal filed in this case on November 30, 2005. This Brief is being filed in response to an office communication dated 6/30/2005. The brief is transmitted in triplicate as required under 37 C.F.R. §1.192(a))

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10

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I. REAL PARTY INTEREST

The real party in interest in this appeal is the party named in the caption of this brief,
SANG MIN LEE.

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences

III. STATUS OF CLAIMS

Applicant received a first non-final office action in August of 2001. Applicant amended claims in line with a telephone communication with Examiner 8/28/2001.

Claim 2 was allowed. Claim 1 was amended with part of the limitation of claim 2 to place the application in a condition for allowance. Claims 4,10, and 16 were amended to correct the spelling of LCD. Claims 19-24 was added to reclaim subject matter in claim 1 for a continuation. As result of the claims status were as follows

(See Exhibit 1 in the Appendix of claims):

1. (currently amended)
2. (currently amended)
3. (original)
4. (currently amended)
5. (original)
6. (original)
7. (original)
8. (original)

9. (original)
10. (currently amended)
11. (original)
12. (original)
13. (original)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
24. (new)

A year later Applicant received a second non-final office action in December 2004. Applicant amended claims in line a telephone communication with Examiner. Examiner and Applicant agreed that claim 1 was distinguished from the prior art Blandenberg. However, we discussed how claim 7 and 13 had to be amended to further distinguish the application from the Blandenberg. As result of the claims status were as follows (See Exhibit 2 in the Appendix of claims):

1. (previously presented)

2. (previously presented)
3. (original)
4. (previously presented)
5. (original)
6. (original)
7. (currently amended)
8. (original)
9. (original)
10. (previously presented)
11. (original)
12. (original)
13. (currently amended)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
24. (new)

IV. STATUS OF AMENDMENTS

Applicant received a final office action on 6/30/2005. This office action was not in line with our original telephone conversation. Additionally, this office action raised issues that were never discussed. Claim 13 was rejected under 35 USC 112. I reviewed the specifications and drawings and determined there were typographical errors in the specifications. I provided that explanation to the examiner in a telephone conversation. Applicant amended the specifications because there was a mislabeling on the drawings of 746, 742, 741, 745 and 7A. I felt that arrow A in drawing 7A needed to be clarified. There were typographical errors in specifications which were changed accordingly Page 9 lines 9-29 and page 10 lines 1-8. The claims presented with the response to the final office action is presented below (See exhibit 3). The claims were not amended. Only the specification was amended to correct 112 rejection. Applicant reasserted the amendments from the prior office action. (See Exhibit 3).

1. (previously presented)
2. (previously presented)
3. (original)
4. (previously presented)
5. (original)
6. (original)
7. (previously presented)

8. (original)
9. (original)
10. (previously presented)
11. (original)
12. (original)
13. (previously presented)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
- 24. (new)**

V. SUMMARY OF CLAIMED SUBJECT MATTER

Referring to FIG 1 –3A, and page 4 lines 29-37, and page 5 lines 2-29, there is provides a description of Claim 1. Claim 1 discloses a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the device consists of a keyboard portion and an electronic portion. The keyboard portion and the electronic housing both have a configuration defined by a top edge, bottom edge, top surface, bottom surface, and a pair of side edges. In this embodiment of the present invention, the top edge of the keyboard portion is hingedly connected to the top edge of

the electronic housing. A keypad overlays the top surface of the keyboard portion and a display means overlays the top surface of the electronic housing. A microprocessor is situated inside the electronic housing and is electrically connected to keyboard the portion. The hinge connection between the keyboard portion and the electronic housing allows the keyboard portion to pivot from a closed position into an operable position. When in a closed position the keypad and display means are enclosed in a cavity formed by the closure of the keyboard portion against the electronic housing. To pivot into an operable position, the keyboard portion is pivoted 360 degrees around the longitudinal axis of the electronic housing such that the bottom surface of the keyboard portion becomes parallel to the bottom surface of the electronic housing. Claim 1 incorporates complementary symmetrical or asymmetrical shaped keyboard portions.

Referring to FIG 1 –3A, and page 4 lines 29-37, and page 5 lines 2-29, there is provides a description of Claim 19. Claim 19 is broader than claim 1. Complementary symmetrical or asymmetrical shaped keyboard portions are not claimed in Claim 19. Claim 19 claims a keyboard portion attached to the backside of the housing. However, in this embodiment of the present invention, the device consists of a keyboard portion and an electronic portion. The keyboard portion and the electronic housing both have a configuration defined by a top edge, bottom edge, top surface, bottom surface, and a pair of side edges. In this embodiment of the present invention, the top edge of the keyboard portion is hingedly connected to the top edge of the electronic housing. A keypad overlays the top surface of the keyboard portion and a display means overlays the top surface of the electronic housing. A microprocessor is situated inside the electronic housing and is electrically connected to keyboard the portion. The hinge connection between the keyboard portion and the electronic housing allows the keyboard portion to pivot from a closed position into an operable position. When in a closed position the keypad and display means are enclosed in a cavity formed by the closure of the keyboard portion against the electronic housing. To pivot into an operable position, the keyboard portion is pivoted 360 degrees around the longitudinal axis of the electronic housing such that the bottom surface of the keyboard portion becomes parallel to the bottom surface of the electronic housing. Claim 1 incorporates complementary symmetrical or asymmetrical shaped keyboard portions.

Referring to FIG 6, and page 8 lines 22-29, a description of claim 7 is provided. Claim 7 discloses another embodiment of a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the bottom surface of the keyboard portion is permanently affixed to the bottom surface of the electronic housing. In this embodiment the handheld device is fixed in its operable position. A keypad overlays the top surface of the keyboard portion and a display means overlays the top surface of the electronic housing.

Referring to FIG's 7-7C, and page 9 lines 9-29, and page 10 lines 2-11, a description of claim 13 is provided. Claim 13 discloses another embodiment of a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the handheld device consists of a sliding bracket having a pair of guide members integrally coupled to the side edges of the electronic housing. The side edges of the keyboard portion are adapted to slide into the guide members. In this embodiment the handheld device is placed in an operable by sliding the keyboard portion with the bottom surface of the keyboard portion parallel to the bottom surface of the electronic housing.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Applicant is requesting a review of the 103 rejections of claims 1, 7, and 19.

Additionally, Applicant is requesting a review of the 112 rejection of claim 13.

VII. ARGUMENT

ISSUE 1: 103 REJECTION OF CLAIM INDEPENDENT CLAIM 1, 7, and 19.

In my final office action response, Applicant reiterated original response per the telephone interview on December 27, 2004 as follows. In his final office action response, Examiner never discussed FIG. 6C of Brandenberg. Per our telephone conversation, Applicant pointed out the significance of FIG. 6C of Brandenberg.

Regarding claim 1, Applicant and Examiner agreed that Applicant's claimed invention could be distinguished from Blandenberg. Applicant claims:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

Blandenberg states:

As device 801 transitions to the open state, display portion 803 hingedly pivots relative to body portion 807 as indicated by arrow 809 in FIG. 6B. In the open state, display screen 815 is adjacent to and visible above thumbboard 805. Fig. 6a shows the closed state and Fig. 6B is still in the closed state to show the transition to FIG. 6C.

As shown in FIG. 6C of Blandenberg, the invention in the prior art keyboard is adjacent to the keyboard in an open state. Blandenberg illustrates in FIG. 6A and 6B that bottom surface of the keyboard and display portion are parallel in a closed state.

Applicant claims the electronic housing having the display and the keyboard portion are parallel in an open state. Thus, the Applicant's invention is

distinguished from the prior art. As shown in FIG. 'S, 6A, 6B, and 6C, the lower edge of the display is hingedly connected to the top edge of the keyboard housing. As shown in FIG. 1 in the specification, the two top edges are hingedly connected as claimed.

Regarding claim 7, Examiner cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. A factual inquiry whether to combine references must be thorough and searching. A showing of suggestion, teaching or motivation to combine the prior art references is an essential component of an obvious holding. The prior art must suggest a desirability to combine prior art references. (See 277 F3d 1338, 61 USPQ2d 1430 (Fed. Cir 2002)).

Here, examiner noted that Brandenberg does not teach the limitation of the bottom surface being permanently affixed of the keyboard in an operable position. the examiner tried to use Brandenberg to fit the claim limitations of Applicant. However, Brandenberg does not teach or suggest the configuration as claimed by the applicant. Brandenberg teaches a pivoting of a display into a normal configuration with the display adjacent to the keyboard in an open state. The device in Brandenberg is not hingedly connected as claimed by the Applicant. The hingedly connection between the two top edges facilitates the transitioning of the applicant's device the open state.

Ni illustrates a backside keyboard for a notebook computer or gamebox. Ni is new reference traversed by the examiner. Additionally, the Keyboard in Ni is not Parabolic and is not hingedly connected as claimed by the Applicant.

Ni nor Brandenberg discloses hand grips for supporting the hands while typing on the keyboard when the device is in the open state. In Brandenberg in FIG. 6C, a

standard keyboard is shown. Thus hand support means on the side is not required. Label 827 in FIG. 6C designates joysticks. By plain definition joysticks are not used for hand support means. Thus, there is no motivation to combine Ni and Brandenberg. Additionally, it also follows that there is no motivation to combine Makala as well.

Regarding independent claim 7, claim 7 was amended to claim an alternative embodiment of claim 1, wherein the invention is affixed into an operable position with the bottom surface of electronic housing (620) and keyboard portion (610) in a parallel position. (See Page 8 line 8-16 and FIG. 6)

Regarding independent claim 13, claim 13 was amended to claim an alternative embodiment of claim 1, wherein the invention is slid into an operable position with the bottom surface of electronic housing (720) and keyboard portion (710) in a parallel position. (See Page 10 lines 3-5 and FIG. 7C).

ISSUE 2: 112 REJECTION OF CLAIM 13

The specifications do more than just mention operable versus closed state. The Page 9 lines 9-29 through page 10 lines 1-8 discloses the full process. There are some typographical errors between the FIG.'S 7A-7C and the specifications. The disclosure can be amended to matter that is inherently disclosed by the original application. (*See In re Smyte, 480 F.2d 1376, 178 USPQ 279 (C.C.P.A.)*) As a result, applicant has amended the specifications to be in line with the drawings which are part of the original disclosure. Examiner alleges that the specifications fail to convey to one skilled in the art. Applicant has amended FIG 7A and 7B with labels in line with FIG 7 and FIG. 7C. Applicant has provided FIG. 7C for clarification. The specification was amended as follows (Please note that examiner and applicant discuss these changes in a telephone conversation; these amendments could have been taken care of before final office action response):

- Labels (746,747) was replaced with 736, 737 to show rib designations. Labels (746, 747) designated ribs earlier in the application. This is an obvious error that can be amended.
- Labels 741 and 742 were changed because their designation are reversed in the drawings. This is an obvious error that can be amended.
- More designations were added to FIG. 7A and 7B for clarification and to bring them in line with FIG. 7 and 7C. These designations are taken directly from the drawings 7 and 7C which were disclosed in the original disclosure.

- Numeral designation 765 was changed to 745. Numeral designation 745 is depicted as bottom surface of the electronic housing in the specifications and drawings. This is an obvious error for amendment.
- A description of 7A and 7B was added to specification for clarification purposes. 7B was changed to 7A. 7A is the closed state. This is an obvious error that can be amended in view of the drawings.
- Claim 13 was amended for examiner clarification. As shown in FIG. 7A, in the closed state the keypad (125) faces the bottom surface of the electronic housing which is also stated in the specifications on Page 10, *“After the user is finished using device (700), the keyboard portion (710) is slid into guide members (735, 737) with the keypad (725) facing the bottom surface (765) (745) of electronic housing (720)”* As shown in the operable state in FIG. 7B, keypad 125 does not face the bottom surface of the electronic housing. However, Applicant can change wording to state a parallel configuration which is also depicted in FIG. 7A if required by the examiner.

Drawings are considered part of the specifications. (*See Was-Cath, Inc v. Mahurkar, 935 F2d 1555, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991)*). Fig.’s 7A-7C illustrates the configuration of operable and closed state of this embodiment of the present invention. The language of claim 13 comes directly from the specifications in conjunction with the drawings. It is not clear what examiner means by the specification do not reasonably convey to one skilled in the art. Clarification is required because the drawings are clear. The description does not require literal support for the claimed

invention. The disclosure should convey the concept that is claimed. (*See Ex Parte Parks 30 USPQ2d 1234, 1246-27 (B.P.A.I 1993)*) *Here, the do drawings provide the concept of the claimed invention. The changes to the specifications to bring them in line with drawings are appropriate changes.*

ISSUE 3--103 REJECTIONS OF OTHER CLAIMS

Examiner was reminded that Applicant amended independent claims 7 and 13 to further distinguish with the prior art. In view of the above amendments to independent claims 7 and 13 and supporting argument to claim 1, Applicant respectfully requests that the rejections to the supporting dependent claims be withdrawn.

VIII. APPENDIX OF CLAIMS INVOLVED IN THIS APPEAL

Exhibit 1 - Claims on appeal

X RELATING PROCEEDING APPENDIX

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences

EVIDENCE APPENDIX

Exhibit 2 – First non-final Office Action amendment of claims

Exhibit 3- second non-final Office Action Amendment of Claims

Exhibit 4- Final Office Action Response with Claims

Exhibit 5 – Brandenburg Patent with drawings at issue

- Exhibit 1

CLAIMS ON APPEAL

1. (Previously Presented) A handheld computerized device comprising:
 - a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
 - an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;
 - a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
 - a means for displaying data overlaying the top surface of the electronic housing; and
 - a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means; and
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
2. (Previously Presented) The device recited in Claim 1, wherein the keypad further comprises:
 - ~~a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;~~
 - ~~the first and the second section lying co-planar vertically parallel along the top surface~~

~~of the support base of the keyboard portion;~~

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original) The device recited in Claim 1, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

4. (Previously Presented) The device recited in Claim 3 wherein the display area is a Liquid Crystals Crystal Display (LCD).

5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

6. (original) The device recited in Claim 1, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (currently amended) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad; a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original) The device recited in Claim 7, wherein the keypad further comprises:
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
 - the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
 - the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.
9. (original) The device recited in Claim 7, wherein the display means further comprises:
 - a display area defined by a top edge, bottom edge, and a pair of side edges;
 - a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
 - each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
10. (Previously Presented) The device recited in Claim 9 wherein the display area is a Liquid Crystals Crystal Display (LCD).
11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:
 - a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
 - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;
and

the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;

in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top bottom surface of the electronic housing
a means for displaying data overlaying the top surface of the electronic housing; and
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

15.(original) The device recited in Claim 13, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

16.(Previously Presented) The device recited in Claim 15 wherein the display area is a Liquid Crystals Crystal Display (LCD).

17.(original) The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18.(original) The device recited in Claim 13, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

19. (Previously Presented) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the

bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad.

20. (Previously Presented): The device recited in Claim 19, wherein the keypad further comprises:

- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas,
- the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
- the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
- the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

21. (Previously Presented) The device recited in Claim 19 wherein the display means further comprises:

- a display area defined by a top edge, bottom edge, and a pair of side edges;
- a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.

22. (Previously Presented): The device recited in Claim 21 wherein the display area is a Liquid Crystal Display (LCD).

23. (Previously Presented): The device recited in Claim 21 wherein the bottom strip and each side strip of the front panel further comprises:

- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof;
- a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

24. (Previously Presented) The device recited in Claim 19 further comprising :

- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
- the pressure sensitive writing means overlapping the bottom edge of the display area.

Exhibit 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : SANG MIN LEE

Serial No.: 09/940,210

Filed: 08/28/2001

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: Francis Nguyen

AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office action dated **August 28, 2001.**

IN THIS CLAIMS

1. (currently amended): A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base; an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands

are supported while the user is typing on the keypad; a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means[.]; a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas; the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

2. (currently amended): The device recited in Claim 1, wherein the keypad further comprises:
[a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;]
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.
3. (original): The device recited in Claim 1, wherein the display means further comprises:
a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
4. (currently amended): The device recited in Claim 3 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).
5. (original): The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:
a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad; and.

20. (new): The device recited in Claim 19, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

21. (new): The device recited in Claim 19, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.

22. (new): The device recited in Claim 19, wherein the display area is a Liquid Crystal Display (LCD).

23. (new): The device recited in Claim 19, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal

upon depression thereof; and
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

24. (new): The device recited in Claim 1 ~~19~~ further comprising:
a pressure sensitive writing means for allowing data to be inputted via handwriting; and
the pressure sensitive writing means overlapping the bottom edge of the display area.

REMARKS

AMENDMENTS

1. REGARDING CLAIMS 4, 10, and 16

The word **CRYSTALS** is misspelled. The correct interpretation of **LCD** is Liquid Crystal Display. Each claim was corrected accordingly.

2. REGARDING CLAIMS 1 AND 2

Per our telephone interview, in order to place claims 1-6 in a condition for allowance, the first two limitations of claim 2 was moved up into claim 1. The last two claim limitations were remained in claim 2.

ARGUMENTS

3. REGARDING ORIGINAL CLAIM 1

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an

equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention. Therefore, in order to reclaim the original claims 1-6 based upon the argument above claims 19-24 are added.

4. REGARDING CLAIM 7

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position.

The claimed invention describes a handheld device with the bottom surfaces of the first and second portion securely attached together. Hand support means are described to support the hands while typing on the keypad.

In order to establish a *prima facie* case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959, 1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The Levingood decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levingood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The Lindell decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re*

Lindell, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration of affixing the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the *Levengood* and *Lindell* decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349,1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention. Furthermore, the alternative configuration of the applicant's claimed invention would render the Genest invention inoperable. It is not generally enough that the prior art suggest the combination recited in the claims; there must also be some reasonable expectation of success of the suggested combination. (See *In re Dow Chem. Co.* 837 F. 2d 469, 473 USPQ 2d 1529,1531 (Fed. Cir. 1988)).

Here, Genest teaches away from the applicant's claimed invention. In Genest the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by affixing the two bottom surfaces.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hands while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*,112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support

means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means in the specification. (See 35 USC §112 paragraph 6) Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieve the claimed invention.

5. REGARDING CLAIM 13

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position. Allgeyer discloses sliding members attached to a disk. Allgeyer does not teach or suggest in a broad sense utilizing guide members on a handheld computer device.

The claimed invention describes a handheld device with a pair of sliding guide members attached to each side edge of the first and second portion. The pair of guide members is utilized to secure the bottom surfaces of the first and second portion in a parallel position. Hand support means are described to support the hands while typing on the keypad.

In order to establish a *prima facie* case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959, 1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This

court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The Levengood decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levengood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The Lindell decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re Lindell*, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration utilizing guide members to secure the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the Levengood and Lindell decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349, 1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention.

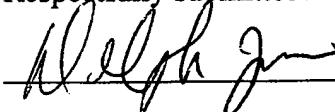
Here, Genest teaches away from the applicant's claimed invention. In Genest, the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by guide members attached to the side edges of each portion of the handheld device.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The

applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully asked that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. Alternatively should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned.

Respectfully submitted:



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office action dated 9/2/2004.

IN THE CLAIMS

1. (original) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or

both hands are supported while the user is typing on the keypad; a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means.

2. (original) The device recited in Claim 1, wherein the keypad further comprises:
a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original) The device recited in Claim 1, wherein the display means further comprises:
a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

4. (original) The device recited in Claim 3 wherein the display area is a Liquid Crystals Display (LCD).

5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:
a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

6. (original) The device recited in Claim 1, further comprising:
a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (currently amended) A handheld computerized device comprising:
 - a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
 - an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;
 - a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
 - a means for displaying data overlaying the top surface of the electronic housing; and
 - a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original) The device recited in Claim 7, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original) The device recited in Claim 7, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (original) The device recited in Claim 9 wherein the display area is a Liquid Crystals Display (LCD).

11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and

the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;

in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top surface of the electronic housing;

111.

a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
 - the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
 - the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;
15. (original) The device recited in Claim 13, wherein the display means further comprises:
 - a display area defined by a top edge, bottom edge, and a pair of side edges;
 - a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
 - each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
16. (original) The device recited in Claim 15 wherein the display area is a Liquid Crystals Display (LCD).
17. (original) The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:
 - a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
 - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
18. (original) The device recited in Claim 13, further comprising:
 - a pressure sensitive writing means for allowing data to be inputted via handwriting; and

Exhibit 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office communication dated 3/3/2005. I have added claims 19-24. I have enclosed the fee for \$5.00.

IN THE CLAIMS

1. (Previously Presented) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along

each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad; a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means; and a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas; the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

2. (Previously Presented) The device recited in Claim 1, wherein the keypad further comprises:
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
 - the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
 - the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.
3. (original) The device recited in Claim 1, wherein the display means further comprises:
 - a display area defined by a top edge, bottom edge, and a pair of side edges;
 - a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
 - each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
4. (Previously Presented) The device recited in Claim 3 wherein the display area is a Liquid Crystals Crystal Display (LCD).

5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:
 - a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
 - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
6. (original) The device recited in Claim 1, further comprising:
 - a pressure sensitive writing means for allowing data to be inputted via handwriting; and
 - the pressure sensitive writing means overlapping the bottom edge of the display area.
7. (currently amended) A handheld computerized device comprising:
 - a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
 - an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;
 - a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
 - a means for displaying data overlaying the top surface of the electronic housing; and
 - a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.
8. (original) The device recited in Claim 7, wherein the keypad further comprises:
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original) The device recited in Claim 7, wherein the display means further comprises: a display area defined by a top edge, bottom edge, and a pair of side edges; a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (Previously Presented) The device recited in Claim 9 wherein the display area is a Liquid Crystals Crystal Display (LCD).

11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;
in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top surface of the electronic housing;
a means for displaying data overlaying the top surface of the electronic housing; and
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:
a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

- 15.(original) The device recited in Claim 13, wherein the display means further comprises:
a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

- 16.(Previously Presented) The device recited in Claim 15 wherein the display area is a Liquid Crystals Crystal Display (LCD).

- 17.(original) The device recited in Claim 15, wherein the bottom strip and each side strip of the

front panel further comprises:

- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
- a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18. (original) The device recited in Claim 13, further comprising:

- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
- the pressure sensitive writing means overlapping the bottom edge of the display area.

19. (Previously Presented) A handheld computerized device comprising:

- a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
- an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;
- a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad.

20. (Previously Presented): The device recited in Claim 19, wherein the keypad further comprises:

- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas,
- the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
- the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : SANG MIN LEE

Serial No.: 09/940,210

Filed: 08/28/2001

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: Francis Nguyen

AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office action dated **August 28, 2001.**

IN THIS CLAIMS

1. (currently amended): A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base; an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base; a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands

are supported while the user is typing on the keypad; a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means[.];

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

2. (currently amended): The device recited in Claim 1, wherein the keypad further comprises:

[a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;]

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original): The device recited in Claim 1, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

4. (currently amended): The device recited in Claim 3 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).

5. (original): The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

6. (original): The device recited in Claim 1, further comprising:
a pressure sensitive writing means for allowing data to be inputted via handwriting; and
the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (original): A handheld computerized device comprising:
a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion;
a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
a means for displaying data overlaying the top surface of the electronic housing; and
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original): The device recited in Claim 7, wherein the keypad further comprises:
a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original): The device recited in Claim 7, wherein the display means further comprises:
a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (currently amended): The device recited in Claim 9 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).

11. (original): The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original): The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (original): A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original): The device recited in Claim 13, wherein the keypad further comprises:

- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
- the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
- the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
- the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

15. (original): The device recited in Claim 13, wherein the display means further comprises:

- a display area defined by a top edge, bottom edge, and a pair of side edges;
- a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
- each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

16. (currently amended): The device recited in Claim 15 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).

17. (original): The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:

- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
- a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18. (original): The device recited in Claim 13, further comprising:

- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
- the pressure sensitive writing means overlapping the bottom edge of the display area.

19. (new): A handheld computerized device comprising:

- a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;
a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad; and.

20. (new): The device recited in Claim 19, wherein the keypad further comprises:

- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
- the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
- the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
- the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

21. (new): The device recited in Claim 14, wherein the display means further comprises:

- a display area defined by a top edge, bottom edge, and a pair of side edges;
- a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.

22. (new): The device recited in Claim 15, wherein the display area is a Liquid Crystal Display (LCD).

23. (new): The device recited in Claim 18, wherein the bottom strip and each side strip of the front panel further comprises:

- a plurality of additional alphanumeric keys each adapted to generate a character signal

upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

24. (new): The device recited in Claim 1, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and
the pressure sensitive writing means overlapping the bottom edge of the display area.

REMARKS

AMENDMENTS

1. REGARDING CLAIMS 4, 10, and 16

The word CRYSTALS is misspelled. The correct interpretation of LCD is Liquid Crystal Display. Each claim was corrected accordingly.

2. REGARDING CLAIMS 1 AND 2

Per our telephone interview, in order to place claims 1-6 in a condition for allowance, the first two limitations of claim 2 was moved up into claim 1. The last two claim limitations were remained in claim 2.

ARGUMENTS

3. REGARDING ORIGINAL CLAIM 1

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an

equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention. Therefore, in order to reclaim the original claims 1-6 based upon the argument above claims 19-24 are added.

4. REGARDING CLAIM 7

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position.

The claimed invention describes a handheld device with the bottom surfaces of the first and second portion securely attached together. Hand support means are described to support the hands while typing on the keypad.

In order to establish a *prima facie* case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959, 1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The Levingood decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levingood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The Lindell decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re*

Lindell, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration of affixing the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the *Levengood* and *Lindell* decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349, 1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention. Furthermore, the alternative configuration of the applicant's claimed invention would render the Genest invention inoperable. It is not generally enough that the prior art suggest the combination recited in the claims; there must also be some reasonable expectation of success of the suggested combination. (See *In re Dow Chem. Co.* 837 F. 2d 469, 473 USPQ 2d 1529, 1531 (Fed. Cir. 1988)).

Here, Genest teaches away from the applicant's claimed invention. In Genest the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by affixing the two bottom surfaces.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hands while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support

means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means in the specification. (See 35 USC §112 paragraph 6) Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieve the claimed invention.

5. REGARDING CLAIM 13

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position. Allegerer discloses sliding members attached to a disk. Allegerer does not teach or suggest in a broad sense utilizing guide members on a handheld computer device.

The claimed invention describes a handheld device with a pair of sliding guide members attached to each side edge of the first and second portion. The pair of guide members is utilized to secure the bottom surfaces of the first and second portion in a parallel position. Hand support means are described to support the hands while typing on the keypad.

In order to establish a *prima facie* case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959, 1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This

court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The Levengood decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levengood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The Lindell decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re Lindell*, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration utilizing guide members to secure the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the Levengood and Lindell decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349, 1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention.

Here, Genest teaches away from the applicant's claimed invention. In Genest, the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by guide members attached to the side edges of each portion of the handheld device.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The

applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully asked that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. Alternatively should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned.

Respectfully submitted:



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CERTIFICATE OF MAILING

I, **Delphine James**, hereby certify that the foregoing **Amendment** is being deposited on 08/18/03 with the United States Postal Service as U.S. Mail, Express mail, in an envelope addressed to:

Commissioner of Patents

Patent Application

Washington DC 20231

Additionally, the foregoing **Amendment** is being faxed to 703-746-5850.

Express Mail Receipt No. _____

By: 

Exh. 6: + 4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the final office action 6/30/2005.

IN THE SPECIFICATIONS

Referring now to FIG. 7, an overall perspective side view of another alternative embodiment of the present invention is seen, a handheld computerized device (700) in an open position. Device (700) can be a Personal Digital Assistant (PDA), Palm Computer or another portable computer with similar architecture. The present invention in no manner is limited by the particular structure, function, logical architecture or compatibility of device (700).

In the illustrated embodiment, device (700) comprises keyboard portion (710) and electronic housing (720). Keyboard portion (710) is depicted having a support base (715) and keypad (725). Support base (715) is depicted having a rectangular configuration with keypad (725) overlaying the top surface (730) of support base (715).

In the illustrated embodiment, device (700) further comprises a sliding bracket (735) having a pair of guide members (736, 737) and a corresponding pair of ribs (746, 747). As shown in the illustrated embodiment, each guide member (736, 737) is composed of a rectangular strip having a groove (738) along its inner horizontal plane. In this kind of embodiment, each side edge (755) of support base (715) is adapted with ribs (736, 737) (746, 747) that is configured to slide into the groove (738) of each corresponding guide member (736, 737). As shown FIG. 7A and FIG. 7B, after the keyboard portion (710) is completely slid into the guide members (736, 737), the keyboard portion (710) is securely held in place.

In the illustrated embodiment, device (700) further comprises electronic housing (720) having a rectangular configuration with a top surface (740), bottom surface (745) top edge (741) (742), bottom edge (742) (741), and a pair of side edges (743, 744). As illustrated in the embodiment, the pair of side edges (743, 744) of the electronic housing are integrally coupled to the pair of guide members (736, 737). With this alternative embodiment except for the addition of the sliding bracket (735), electronic housing (720) and keyboard portion (710) are structurally equivalent and functionally equivalent to electronic housing (200) and keyboard portion (300) of device (100) shown in FIG 1. Additionally, with this alternative embodiment, the internal schematic diagram illustrated in FIG. 4 for electronic housing (200) is also supported by electronic housing (720).

As shown in FIG. 7C, when device (700) is used, it is placed in an operable position by sliding ribs (746, 747) into guide members (735, 737) with the bottom surface (760) of

IN THE CLAIMS

1. (Previously Presented) A handheld computerized device comprising:
 - a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
 - an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;
 - a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
 - a means for displaying data overlaying the top surface of the electronic housing; and
 - a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means; and
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
2. (Previously Presented) The device recited in Claim 1, wherein the keypad further comprises:
 - a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
 - the first and the second section lying co-planar vertically parallel along the top surface

of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original) The device recited in Claim 1, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

4. (Previously Presented) The device recited in Claim 3 wherein the display area is a Liquid Crystals Crystal Display (LCD).

5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

6. (original) The device recited in Claim 1, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;
and

the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (currently amended) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;
a means for displaying data overlaying the top surface of the electronic housing; and a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original) The device recited in Claim 7, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original) The device recited in Claim 7, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (Previously Presented) The device recited in Claim 9 wherein the display area is a Liquid Crystals Crystal Display (LCD).

11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and

the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;

in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top bottom surface of the electronic housing

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

15.(original) The device recited in Claim 13, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

16.(Previously Presented) The device recited in Claim 15 wherein the display area is a Liquid Crystals Crystal Display (LCD).

17.(original) The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18.(original) The device recited in Claim 13, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and

the pressure sensitive writing means overlapping the bottom edge of the display area.

19. (Previously Presented) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the

bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad.

20. (Previously Presented): The device recited in Claim 19, wherein the keypad further comprises:

- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas,
- the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
- the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
- the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

21. (Previously Presented) The device recited in Claim 19 wherein the display means further comprises:

- a display area defined by a top edge, bottom edge, and a pair of side edges;
- a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.

22. (Previously Presented): The device recited in Claim 21 wherein the display area is a Liquid Crystal Display (LCD).

23. (Previously Presented): The device recited in Claim 21 wherein the bottom strip and each side strip of the front panel further comprises:

- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof;
- a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

24. (Previously Presented) The device recited in Claim 19 further comprising :

- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
- the pressure sensitive writing means overlapping the bottom edge of the display area.

ARGUMENTS

I am reiterating my original response per our telephone interview on December 27, 2004 as follows. In his response, Examiner never discussed FIG. 6C of Brandenberg. Per our telephone conversation, I pointed out the significance of FIG. 6C.

Regarding claim 1, we agreed that Applicant's claimed invention could be distinguished from Brandenberg. Applicant claims:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

Brandenberg states:

As device 801 transitions to the open state, display portion 803 hingedly pivots relative to body portion 807 as indicated by arrow 809 in FIG. 6B. In the open state, display screen 815 is adjacent to and visible above thumbboard 805. Fig. 6a shows the closed state and Fig. 6B is still in the closed state to show the transition to FIG. 6C.

As shown in FIG. 6C, the invention in the prior art keyboard is adjacent to the keyboard in an open state. The prior illustrates in FIG. 6A and 6B that bottom surface of the keyboard and display portion are parallel in a closed state. However, applicant claims the electronic housing

having the display and the keyboard portion are parallel in an open state. Thus, the Applicant's invention is distinguished from the prior art. As shown in FIG.'S, 6A, 6B, and 6C, the lower edge of the display is hingedly connected to the top edge of the keyboard housing. As shown in FIG. 1 in the specification, the two top edges are hingedly connected as claimed.

Regarding independent claim 7, claim 7 was amended to claim an alternative embodiment of claim 1, wherein the invention is affixed into an operable position with the bottom surface of electronic housing (620) and keyboard portion (610) in a parallel position. (See Page 8 line 8-16 and FIG. 6)

Regarding independent claim 13, claim 13 was amended to claim an alternative embodiment of claim 1, wherein the invention is slid into an operable position with the bottom surface of electronic housing (720) and keyboard portion (710) in a parallel position. (See Page 10 lines 3-5 and FIG. 7C).

112 REJECTION OF CLAIM 13

The specifications do more than just mention operable versus closed state. The Page 9 lines 9-29 through page 10 lines 1-8 discloses the full process. There are some typographical errors between the FIG.'S 7A-7C and the specifications. The disclosure can be amended to matter that is inherently disclosed by the original application. (*See In re Smyte, 480 F.2d 1376, 178 USPQ 279 (C.C.P.A.)*) As a result, applicant has amended the specifications to be in line with the drawings which are part of the original disclosure. Examiner alleges that the specifications fail to convey to one skilled in the art. Applicant has amended FIG 7A and 7B with labels in line with FIG 7 and FIG. 7C. Applicant has provided FIG. 7C for clarification. The specification was amended as follows (Please note that examiner and applicant discuss

these changes in a telephone conversation; these amendments could have been taken care of before final office action response):

- label (746,747) was replaced with 736, 737 to show rib designations. 746, 747 was designated as ribs earlier in the application. This is an obvious error that can be amended.
- labels 741 and 742 was changed because their designation are reversed in the drawings. This is an obvious error that can be amended.
- More designations were added to FIG. 7A and 7B for clarification and to bring them in line with FIG. 7 and 7C. These designations are taken directly from the drawings 7 and 7C which were disclosed in the original disclosure.
- 765 was changed to 745. 745 is depicted as bottom surface of the electronic housing in the specifications and drawings. This is an obvious error for amendment.
- a description of 7A and 7B was added for examiner clarification. 7B was changed to 7A. 7A is the closed state. This is an obvious error that can be amended in view of the drawings.
- Claim 13 was amended for examiner clarification. As shown in FIG. 7A, in the closed state the keypad (125) faces the bottom surface of the electronic housing which is also stated in the specifications on Page 10, *“After the user is finished using device (700), the keyboard portion (710) is slid into guide members (735, 737) with the keypad (725) facing the bottom surface (765) (745) of electronic housing (720)”* As shown in the operable state in FIG. 7B, keypad 125 does not face the bottom surface of the electronic housing. However,

Applicant can change wording to state a parallel configuration which is also depicted in FIG. 7A if required by the examiner.

Drawings are considered part of the specifications. (*See Was-Cath, Inc v. Mahurkar, 935 F2d 1555, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991)*). Fig.'s 7A-7C illustrates the configuration of operable and closed state of this embodiment of the present invention. The language of claim 13 comes directly from the specifications in conjunction with the drawings. It is not clear what examiner means by the specification do not reasonably convey to one skilled in the art.

Clarification is required because the drawings are clear. The description does not require literal support for the claimed invention. The disclosure should convey the concept that is claimed. (*See Ex Parte Parks 30 USPQ2d 1234, 1246-27 (B.P.A.I 1993)*) *Here, the drawings provide the concept of the claimed invention.*

103 REJECTIONS

Examiner cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. A factual inquiry whether to combine references must be thorough and searching. A showing of suggestion, teaching or motivation to combine the prior art references is an essential component of an obvious holding. The prior art must suggest a desirability to combine prior art references. (See 277 F3d 1338, 61 USPQ2d 1430 (Fed. Cir 2002)).

Here, the examiner tried to use Brandenberg to fit the claim limitations of Applicant. However, Brandenberg does not teach or suggest the configuration as claimed by the applicant. Brandenberg teaches a pivoting of a display into a normal configuration with the display adjacent to the keyboard in an open state. The device in Brandenberg is not hingedly

connected as claimed by the Applicant. The hingedly connection between the two top edges facilitates the transitioning of the applicant's device the open state.

Ni illustrates a backside keyboard for a notebook computer or gamebox. Ni is new reference traversed by the examiner. Additionally, the Keyboard in Ni is not Parabolic and is not hingedly connected as claimed by the Applicant.

Ni nor Brandenberg discloses hand grips for supporting the hands while typing on the keyboard when the device is in the open state. In Brandenberg in FIG. 6C, a standard keyboard is shown. Thus hand support means on the side is not required. Label 827 in FIG. 6C designates joysticks. By plain definition joysticks are not used for hand support means. Thus, there is no motivation to combine Ni and Brandenberg. Additionally, it also follows that there is no motivation to combine Makala as well.

Examiner is reminded that Applicant has amended independent claims 7 and 13 to further distinguish with the prior art. In view of the above amendments to independent claims 7 and 13 and supporting argument to claim 1, Applicant respectfully requests that the rejections to the supporting dependent claims be withdrawn. Alternately should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he/she is invited to telephone the undersigned.

Respectfully submitted:

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CERTIFICATE OF MAILING AND FACSIMILE

I, Delphine James, hereby certify that the foregoing Response to the Office Action is being deposited on 11/30/2005 with the United States Postal Service as U.S. Express Mail. Additionally, the foregoing response is also being transmitted by Facsimile to

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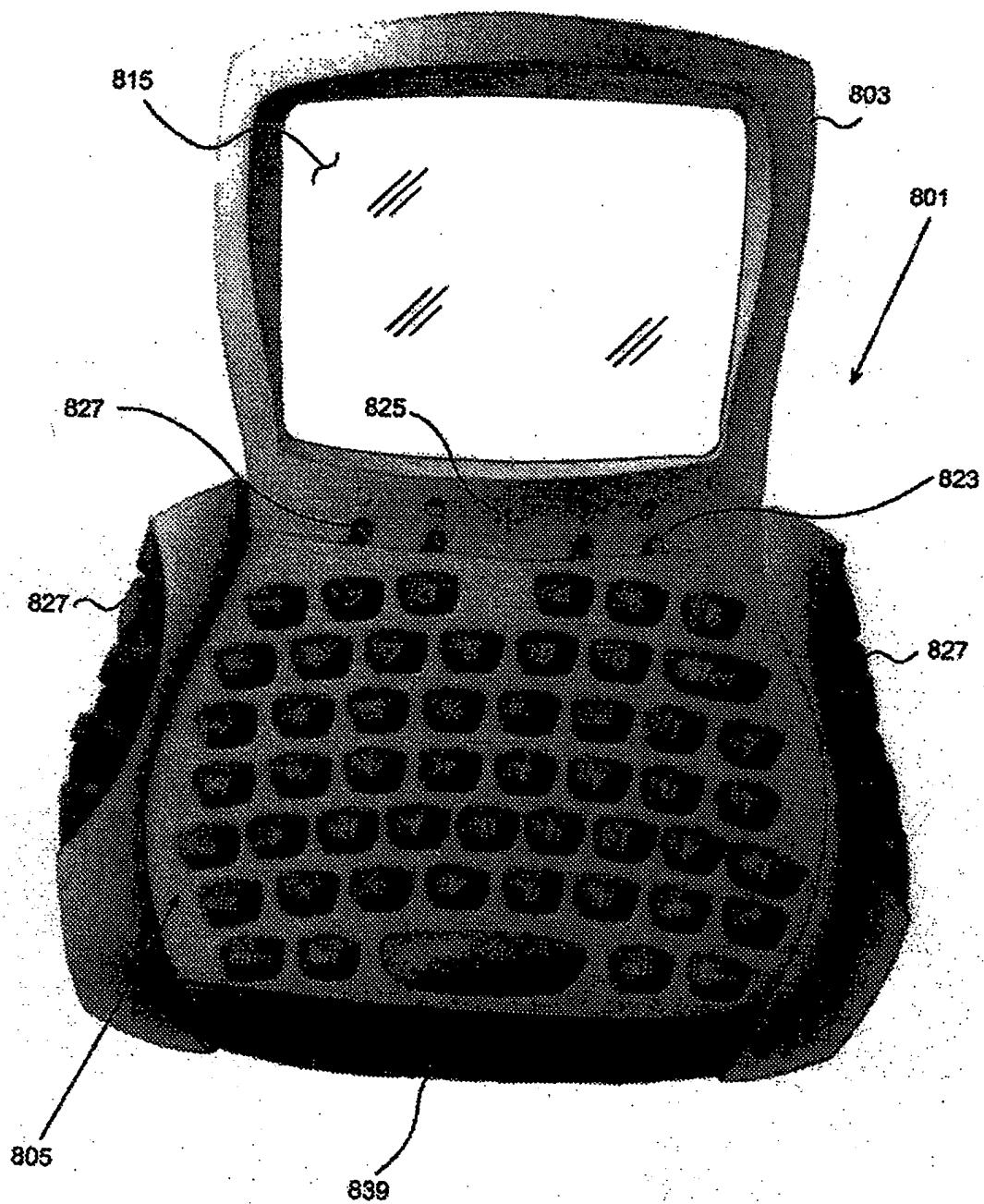


Figure 6C

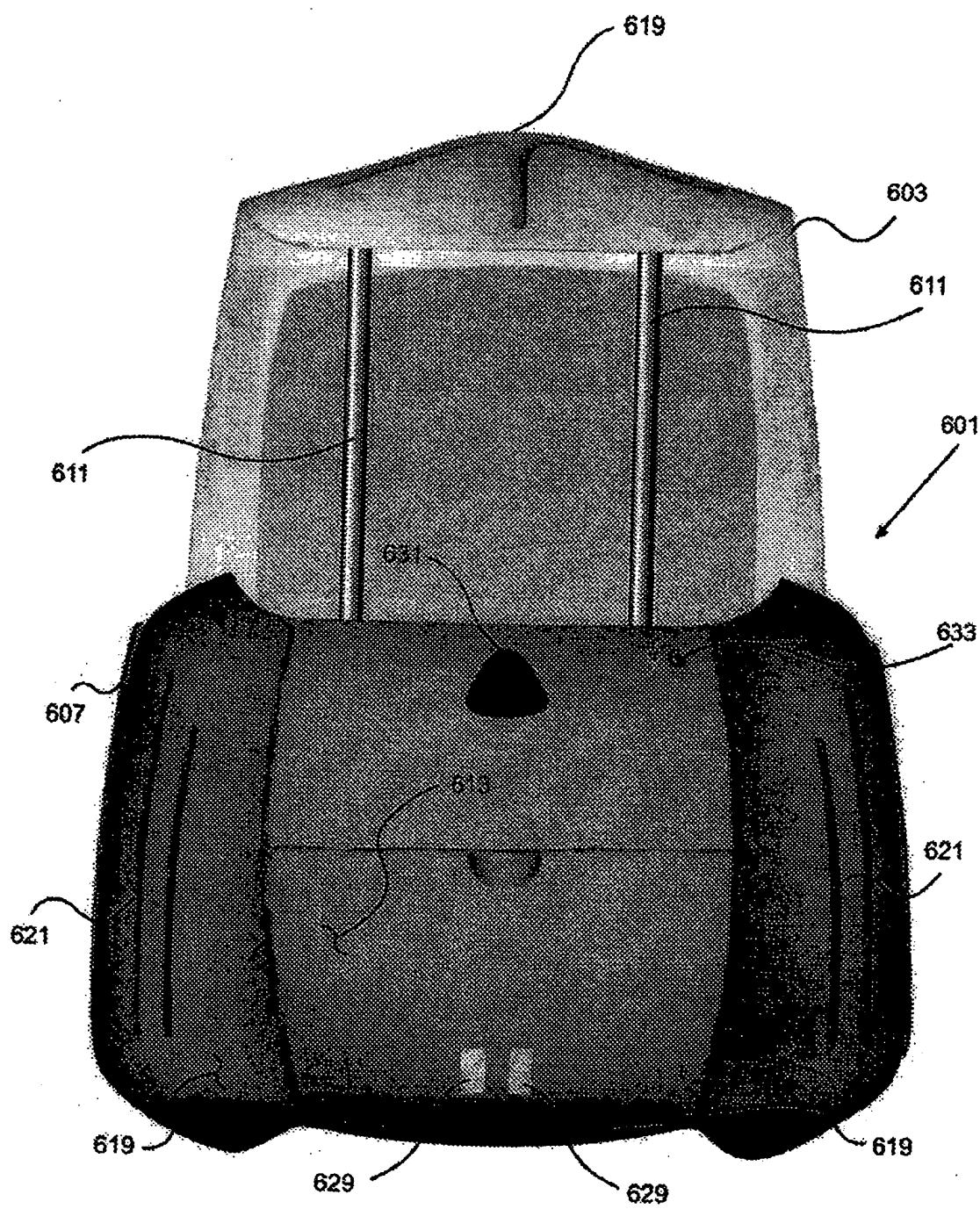
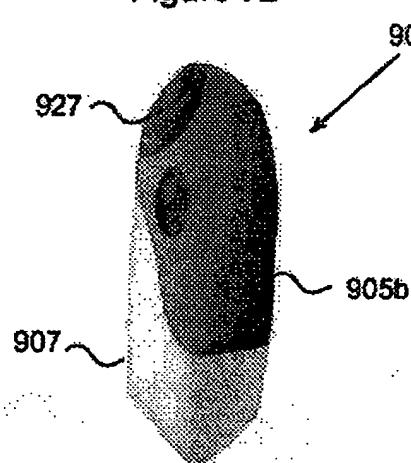
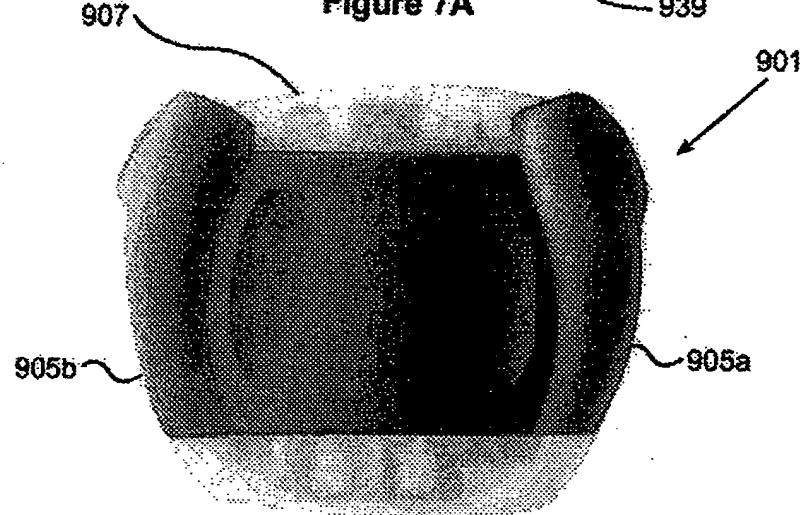
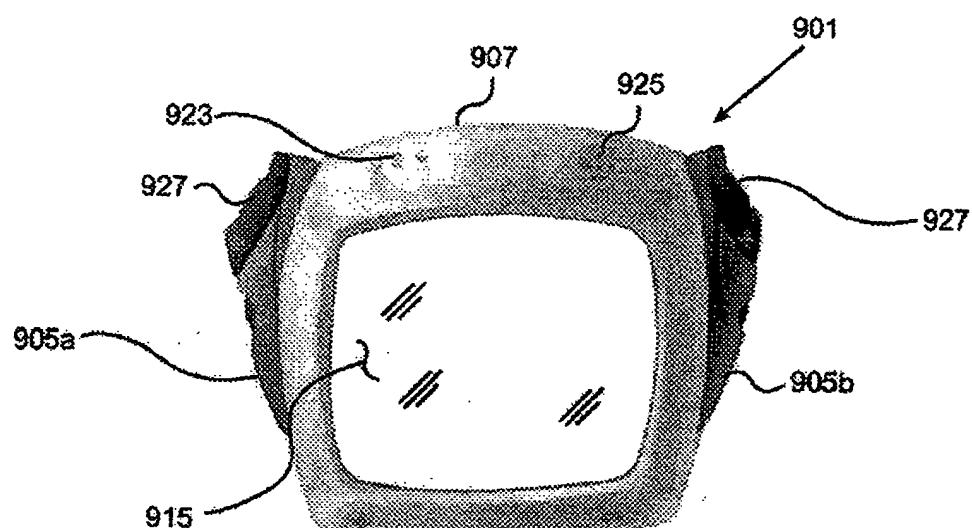


Figure 4F



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